



3

SEQUENCE LISTING

<110> Fuqua, Suzanne
Allred, D.
Hopp, Torsten A.
O'Connell, Peter

<120> Methods and Composition in Breast Cancer Diagnosis and Therapeutics

<130> P02102US2

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<213> Human

<400> 9

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25

30

Ile Pro Leu Glu Arg Pro Leu Gly Glu Val Tyr Leu Asp Ser Ser Lys
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Pro Ala Val Tyr Asn Tyr Pro Glu Gly Ala Ala Tyr Glu Phe Asn Ala
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Ala Ala Ala Ala Asn Ala Gln Val Tyr Gly Gln Thr Gly Leu Pro Tyr
65 70 75 80

Gly Pro Gly Ser Glu Ala Ala Ala Phe Gly Ser Asn Gly Leu Gly Gly
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Phe Pro Pro Leu Asn Ser Val Ser Pro Ser Pro Leu Met Leu Leu His
100 105 110

Pro Pro Pro Gln Leu Ser Pro Phe Leu Gln Pro His Gly Gln Gln Val
115 120 125

Pro Tyr Tyr Leu Glu Asn Glu Pro Ser Gly Tyr Thr Val Arg Glu Ala
130 135 140

Gly Pro Pro Ala Phe Tyr Arg Pro Asn Ser Asp Asn Arg Arg Gln Gly
145 150 155 160

Gly Arg Glu Arg Leu Ala Ser Thr Asn Asp Lys Gly Ser Met Ala Met
165 170 175

Glu Ser Ala Lys Glu Thr Arg Tyr Cys Ala Val Cys Asn Asp Tyr Ala
180 185 190

Ser Gly Tyr His Tyr Gly Val Trp Ser Cys Glu Gly Cys Lys Ala Phe
195 200 205

Phe Lys Arg Ser Ile Gln Gly His Asn Asp Tyr Met Cys Pro Ala Thr
210 215 220

Asn Gln Cys Thr Ile Asp Lys Asn Arg Arg Lys Ser Cys Gln Ala Cys
225 230 235 240

Arg Leu Arg Lys Cys Tyr Glu Val Gly Met Met Lys Gly Gly Ile Arg
245 250 255

Lys Asp Arg Arg Gly Gly Arg Met Leu Lys His Lys Arg Gln Arg Asp
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Asp Gly Glu Gly Arg Gly Glu Val Gly Ser Ala Gly Asp Met Arg Ala
275 280 285

Ala Asn Leu Trp Pro Ser Pro Leu Met Ile Lys Arg Ser Lys Lys Asn
290 295 300

Ser Leu Ala Leu Ser Leu Thr Ala Asp Gln Met Val Ser Ala Leu Leu
305 310 315 320

Asp Ala Glu Pro Pro Ile Leu Tyr Ser Glu Tyr Asp Pro Thr Arg Pro
325 330 335

Phe Ser Glu Ala Ser Met Met Gly Leu Leu Thr Asn Leu Ala Asp Arg
340 345 350

Glu Leu Val His Met Ile Asn Trp Ala Lys Arg Val Pro Gly Phe Val
355 360 365

Asp Leu Thr Leu His Asp Gln Val His Leu Leu Glu Cys Ala Trp Leu
370 375 380

Glu Ile Leu Met Ile Gly Leu Val Trp Arg Ser Met Glu His Pro Val
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Lys Leu Leu Phe Ala Pro Asn Leu Leu Leu Asp Arg Asn Gln Gly Lys
405 410 415

Cys Val Glu Gly Met Val Glu Ile Phe Asp Met Leu Leu Ala Thr Ser
420 425 430

Ser Arg Phe Arg Met Met Asn Leu Gln Gly Glu Glu Phe Val Cys Leu
435 440 445

Lys Ser Ile Ile Leu Leu Asn Ser Gly Val Tyr Thr Phe Leu Ser Ser
450 455 460

Thr Leu Lys Ser Leu Glu Glu Lys Asp His Ile His Arg Val Leu Asp
465 470 475 480

Lys Ile Thr Asp Thr Leu Ile His Leu Met Ala Lys Ala Gly Leu Thr
485 490 495

Leu Gln Gln Gln His Gln Arg Leu Ala Gln Leu Leu Leu Ile Leu Ser
500 505 510

His Ile Arg His Met Ser Asn Lys Gly Met Glu His Leu Tyr Ser Met
515 520 525

Lys Cys Lys Asn Val Val Pro Leu Tyr Asp Leu Leu Leu Glu Met Leu
530 535 540

Asp Ala His Arg Leu His Ala Pro Thr Ser Arg Gly Gly Ala Ser Val
545 550 555 560

Glu Glu Thr Asp Gln Ser His Leu Ala Thr Ala Gly Ser Thr Ser Ser
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His Ser Leu Gln Lys Tyr Tyr Ile Thr Gly Glu Ala Glu Gly Phe Pro
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Ala Thr Val
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Glu Gly Glu Gly Asp Ala Thr Tyr Gly Lys Leu Thr Leu Lys Phe Ile
35 40 45

Cys Thr Thr Gly Lys Leu Pro Val Pro Trp Pro Thr Leu Val Thr Thr
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Leu Thr Trp Gly Val Gln Cys Phe Ser Arg Tyr Pro Asp His Met Lys
65 70 75 80

Gln His Asp Phe Phe Lys Ser Ala Met Pro Glu Gly Tyr Val Gln Glu
85 90 95

Arg Thr Ile Phe Phe Lys Asp Asp Gly Asn Tyr Lys Thr Arg Ala Glu
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Val Lys Phe Glu Gly Asp Thr Leu Val Asn Arg Ile Glu Leu Lys Gly
115 120 125

Ile Asp Phe Lys Glu Asp Gly Asn Ile Leu Gly His Lys Leu Glu Tyr
130 135 140

Asn Tyr Ile Ser His Asn Val Tyr Ile Thr Ala Asp Lys Gln Lys Asn
145 150 155 160

Gly Ile Lys Ala His Phe Lys Ile Arg His Asn Ile Glu Asp Gly Ser
165 170 175

Val Gln Leu Ala Asp His Tyr Gln Gln Asn Thr Pro Ile Gly Asp Gly
180 185 190

Pro Val Leu Leu Pro Asp Asn His Tyr Leu Ser Thr Gln Ser Ala Leu
195 200 205

Ser Lys Asp Pro Asn Glu Lys Arg Asp His Met Val Leu Leu Glu Phe
210 215 220

Val Thr Ala Ala Arg Met Pro Gly Gly Ser Ala Gly Asp Met Arg Ala
225 230 235 240

Ala Asn Leu Trp Pro Ser Pro Leu Met Ile Lys Arg Ser Lys Lys Asn
245 250 255

Ser Leu Ala Leu Ser Leu Thr Ala Asp Gln Met Val Ser Ala Leu Leu
260 265 270

Asp Ala Glu Pro Pro Ile Leu Tyr Ser Glu Tyr Asp Pro Thr Arg Pro
275 280 285

Phe Ser Glu Ala Ser Met Met Gly Leu Leu Thr Asn Leu Ala Asp Arg
290 295 300

Glu Leu Val His Met Ile Asn Trp Ala Lys Arg Val Pro Gly Phe Val
305 310 315 320

Asp Leu Thr Leu His Asp Gln Val His Leu Leu Glu Cys Ala Trp Leu
325 330 335

Glu Ile Leu Met Ile Gly Leu Val Trp Arg Ser Met Glu His Pro Val
340 345 350

Lys Leu Leu Phe Ala Pro Asn Leu Leu Leu Asp Arg Asn Gln Gly Lys
355 360 365

Cys Val Glu Gly Met Val Glu Ile Phe Asp Met Leu Leu Ala Thr Ser
370 375 380

Ser Arg Phe Arg Met Met Asn Leu Gln Gly Glu Glu Phe Val Cys Leu
385 390 395 400

Lys Ser Ile Ile Leu Leu Asn Ser Gly Val Tyr Thr Phe Leu Ser Ser
405 410 415

Thr Leu Lys Ser Leu Glu Glu Lys Asp His Ile His Arg Val Leu Asp
420 425 430

Lys Ile Thr Asp Thr Leu Ile His Leu Met Ala Lys Ala Gly Leu Thr
435 440 445

Leu Gln Gln Gln His Gln Arg Leu Ala Gln Leu Leu Leu Ile Leu Ser
450 455 460

His Ile Arg His Met Ser Asn Lys Gly Met Glu His Leu Tyr Ser Met
465 470 475 480

Lys Cys Lys Asn Val Val Pro Leu Tyr Asp Leu Leu Leu Glu Met Leu
485 490 495

Asp Ala His Arg Leu His Ala Pro Thr Ser Arg Gly Gly Ala Ser Val
500 505 510

Glu Glu Thr Asp Gln Ser His Leu Ala Thr Ala Gly Ser Thr Ser Ser
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His Ser Leu Gln Lys Tyr Tyr Ile Thr Gly Glu Ala Glu Gly Phe Pro
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Ala Thr Val
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<400> 11

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Ala Leu Ser Leu Thr Ala Asp Gln Met Val Ser Ala Leu Leu Asp Ala
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Glu Pro Pro Ile Leu Tyr Ser Glu Tyr Asp Pro Thr Arg Pro Phe Ser
65 70 75 80

Glu Ala Ser Met Met Gly Leu Leu Thr Asn Leu Ala Asp Arg Glu Leu
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Val His Met Ile Asn Trp Ala Lys Arg Val Pro Gly Thr Arg Glu Asn
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Val

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Ile Pro Leu Glu Arg Pro Leu Gly Glu Val Tyr Leu Asp Ser Ser Lys
35 40 45

Pro Ala Val Tyr Asn Tyr Pro Glu Gly Ala Ala Tyr Glu Phe Asn Ala
50 55 60

Ala Ala Ala Ala Asn Ala Gln Val Tyr Gly Gln Thr Gly Leu Pro Tyr
65 70 75 80

Gly Pro Gly Ser Glu Ala Ala Ala Phe Gly Ser Asn Gly Leu Gly Gly
85 90 95

Phe Pro Pro Leu Asn Ser Val Ser Pro Ser Pro Leu Met Leu Leu His
100 105 110

Pro Pro Pro Gln Leu Ser Pro Phe Leu Gln Pro His Gly Gln Gln Val
115 120 125

Pro Tyr Tyr Leu Glu Asn Glu Pro Ser Gly Tyr Thr Val Arg Glu Ala
130 135 140

Gly Pro Pro Ala Phe Tyr Arg Pro Asn Ser Asp Asn Arg Arg Gln Gly
145 150 155 160

Gly Arg Glu Arg Leu Ala Ser Thr Asn Asp Lys Gly Ser Met Ala Met
165 170 175

Glu Ser Ala Lys Glu Thr Arg Tyr Cys Ala Val Cys Asn Asp Tyr Ala
180 185 190

Ser Gly Tyr His Tyr Gly Val Trp Ser Cys Glu Gly Cys Lys Ala Phe
195 200 205

Phe Lys Arg Ser Ile Gln Gly His Asn Asp Tyr Met Cys Pro Ala Thr
210 215 220

Asn Gln Cys Thr Ile Asp Lys Asn Arg Arg Lys Ser Cys Gln Ala Cys
225 230 235 240

Arg Leu Arg Lys Cys Tyr Glu Val Gly Met Met Lys Gly Gly Ile Arg
245 250 255

Lys Asp Arg Arg Gly Gly Arg Met Leu Lys His Lys Arg Gln Arg Asp
260 265 270

Asp Gly Glu Gly Arg Gly Glu Val Gly Ser Ala Gly Asp Met Arg Ala
275 280 285

Ala Asn Leu Trp Pro Ser Pro Leu Met Ile Lys Arg Ser Lys Lys Asn
290 295 300

Ser Leu Ala Leu Ser Leu Thr Ala Asp Gln Met Val Ser Ala Leu Leu
305 310 315 320

Asp Ala Glu Pro Pro Ile Leu Tyr Ser Glu Tyr Asp Pro Thr Arg Pro
325 330 335

Phe Ser Glu Ala Ser Met Met Gly Leu Leu Thr Asn Leu Ala Asp Arg
340 345 350

Glu Leu Val His Met Ile Asn Trp Ala Lys Arg Val Pro Gly Phe Val
355 360 365

Asp Leu Thr Leu His Asp Gln Val His Leu Leu Glu Cys Ala Trp Leu
370 375 380

Glu Ile Leu Met Ile Gly Leu Val Trp Arg Ser Met Glu His Pro Val
385 390 395 400

Lys Leu Leu Phe Ala Pro Asn Leu Leu Leu Asp Arg Asn Gln Gly Lys
405 410 415

Cys Val Glu Gly Met Val Glu Ile Phe Asp Met Leu Leu Ala Thr Ser
420 425 430

Ser Arg Phe Arg Met Met Asn Leu Gln Gly Glu Glu Phe Val Cys Leu
435 440 445

Lys Ser Ile Ile Leu Leu Asn Ser Gly Val Tyr Thr Phe Leu Ser Ser
450 455 460

Thr Leu Lys Ser Leu Glu Glu Lys Asp His Ile His Arg Val Leu Asp
465 470 475 480

Lys Ile Thr Asp Thr Leu Ile His Leu Met Ala Lys Ala Gly Leu Thr
485 490 495

Leu Gln Gln Gln His Gln Arg Leu Ala Gln Leu Leu Leu Ile Leu Ser
500 505 510

His Ile Arg His Met Arg Asn Gln Gly Lys Cys Val Glu Gly Met Val
515 520 525

Glu Ile Phe Asp Met Leu Leu Ala Thr Ser Ser Arg Phe Arg Met Met
530 535 540

Asn Leu Gln Gly Glu Glu Phe Val Cys Leu Lys Ser Ile Ile Leu Leu
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Asn Ser Gly Val Tyr Thr Phe Leu Ser Ser Thr Leu Lys Ser Leu Glu
565 570 575

Glu Lys Asp His Ile His Arg Val Leu Asp Lys Ile Thr Asp Thr Leu

580

585

590

Ile His Leu Met Ala Lys Ala Gly Leu Thr Leu Gln Gln Gln His Gln
595 600 605

Arg Leu Ala Gln Leu Leu Ile Leu Ser His Ile Arg His Met Ser
610 615 620

Asn Lys Gly Met Glu His Leu Tyr Ser Met Lys Cys Lys Asn Val Val
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Ala Pro Thr Ser Arg Gly Gly Ala Ser Val Glu Glu Thr Asp Gln Ser
660 665 670

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gaggacatga gccagagcca gctggccacc tcgggctcaa ctccatcgca ttcccttgcaa	1740
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<210> 25
 <211> 1759
 <212> DNA
 <213> *Polyxenus fasciculatus*

<400> 25	
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taactgtggc aattcttagag ctaatacacg cctccaagct ctgacctatc gggacgagcg	180
cttttattag accaagacca atcgggcttc ggtccgtttc ctttggtgac tctgaataac	240

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<210> 26
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 <212> DNA
 <213> Human

<400> 26
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<210> 27
<211> 228
<212> DNA
<213> *Polyxenus lagurus*

<400> 27
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cagcttgttt ctccccttgt ccgagaggac cgggtaatcc gctgaaccac cttcgtgata 180
gggatcgggg tttgaaatata tccccgtga acgaggaatt cccagtaa 228

<210> 28
<211> 2842
<212> DNA
<213> Human

<400> 28
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cagtgtttag gtcagacgac ttcagtggac tgacggcctt acctcgagc atcctttat 180
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aaattatcca tgcctttt cttgtggcca ggtgtcgcca gccctcggtg attttgtta 360
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tgagaaccga atttctgatg caactggaca ctgtactaac ttccggctgag gaccaaatcg 480
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tggaaacgact tttaatcccc cttcctgaca gcacagcggag gcaccagata atagtacaac 600
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aagagcaaca gtattcctca atcctgtctg ttctgcagta ttaagctaag aacaggtaaa	1440
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cccccaaaaa aaaaaaaaaa aa	2842

<210> 29
 <211> 381
 <212> PRT

<213> violet cress

<400> 29

Ala Met Val Gln His Gln Pro Pro Pro Gln Val Pro Pro Pro Pro Ser
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Gln Gln Ser Pro Val Thr Pro Leu Thr Ala Ala Phe Gly Met Arg Leu
20 25 30

Gly Gly Leu Glu Gly Leu Phe Gly Pro Tyr Gly Ile Arg Phe Tyr Thr
35 40 45

Ala Ala Lys Ile Ala Glu Leu Gly Phe Thr Ala Ser Thr Leu Val Gly
50 55 60

Met Lys Asp Glu Glu Leu Glu Asp Met Met Asn Ser Leu Ser His Ile
65 70 75 80

Phe Arg Trp Glu Leu Leu Val Gly Glu Arg Tyr Gly Ile Lys Ala Ala
85 90 95

Val Arg Ala Glu Arg Arg Leu Gln Glu Glu Glu Asp Glu Ser
100 105 110

Ser Arg Arg Arg His Leu Leu Ser Ala Ala Gly Asp Ser Gly Thr
115 120 125

His His Ala Leu Asp Ala Leu Ser Gln Glu Asp Asp Trp Thr Gly Leu
130 135 140

Ser Glu Glu Pro Met His Gln Asp Gln Thr Asp Ala Ala Gly Asn Gly
145 150 155 160

Gly Phe Gly Gly Tyr Leu Glu Ser Ser Val His Gly Lys Met Lys Lys
165 170 175

His Gln Pro Arg Arg Arg Lys Lys Pro Leu Val Leu Thr Ser Val Glu
180 185 190

Thr Asp Asp Asp Gly Asn Asp Asn Glu Asp Asp Asp Gly Met Asp Asn
195 200 205

Gly Asn Gly Gly Ile Gly Leu Gly Thr Glu Arg Gln Arg Glu His Pro
210 215 220

Phe Ile Val Thr Glu Pro Gly Glu Val Ala Arg Gly Lys Lys Asn Gly

225 230 235 240

Leu Asp Tyr Leu Phe His Leu Tyr Glu Gln Cys Arg Glu Phe Leu Leu
245 250 255

Gln Val Gln Thr Ile Ala Lys Asp Arg Gly Glu Lys Cys Pro Thr Lys
260 265 270

Val Thr Asn Gln Val Phe Arg Tyr Ala Lys Lys Ser Gly Ala Ser Tyr
275 280 285

Ile Asn Lys Pro Lys Met Arg His Tyr Val His Cys Tyr Ala Leu His
290 295 300

Cys Leu Asp Glu Glu Ala Ser Asn Ala Leu Arg Arg Ala Phe Lys Glu
305 310 315 320

Arg Gly Glu Asn Val Gly Ser Trp Arg Gln Ala Cys Tyr Lys Pro Leu
325 330 335

Val Asn Ile Ala Cys Arg His Gly Trp Asp Ile Asp Ala Val Phe Asn
340 345 350

Ala His Pro Arg Leu Ser Ile Trp Tyr Val Pro Thr Lys Leu Arg Gln
355 360 365

Leu Cys His Leu Glu Arg Asn Asn Ala Val Ala Ala Ala
370 375 380

<210> 30
<211> 595
<212> PRT
<213> hamster

<400> 30

Met Thr Met Thr Leu His Thr Lys Ala Ser Gly Met Ala Leu Leu His
1 5 10 15

Gln Ile Gln Gly Asn Glu Leu Glu Pro Leu Ser Arg Pro Gln Leu Lys
20 25 30

Met Pro Leu Glu Arg Ala Leu Ser Glu Val Tyr Val Asp Ser Ser Lys
35 40 45

Pro Ala Met Phe Asn Tyr Pro Glu Gly Ala Ala Tyr Glu Phe Asn Ala
50 55 60

Ala Thr Ala Pro Ala Pro Val Tyr Gly Gln Thr Gly Ile Ala Tyr Gly
65 70 75 80

Ser Gly Ser Glu Ala Thr Ala Phe Gly Ser Asn Ser Leu Gly Leu Phe
85 90 95

Pro Gln Leu Asn Ser Val Ser Pro Ser Pro Leu Met Leu Leu His Pro
100 105 110

Pro Pro Pro Gln Leu Ser Pro Phe Leu His Pro His Gly Gln Gln Val
115 120 125

Pro Tyr Tyr Leu Glu Asn Glu Pro Ser Ala Tyr Ala Val Arg Asp Ser
130 135 140

Gly Pro Pro Ala Phe Tyr Arg Ser Asn Ser Asp Asn Arg Arg Gln Ser
145 150 155 160

Gly Arg Glu Arg Leu Ser Ser Ser Glu Lys Gly Ser Met Ala Met
165 170 175

Glu Ser Val Lys Glu Thr Arg Tyr Cys Ala Val Cys Asn Asp Tyr Ala
180 185 190

Ser Gly Tyr His Tyr Gly Val Trp Ser Cys Glu Gly Cys Lys Ala Phe
195 200 205

Phe Lys Arg Ser Ile Gln Gly His Asn Asp Tyr Met Cys Pro Ala Thr
210 215 220

Asn Gln Cys Thr Ile Asp Lys Asn Arg Arg Lys Ser Cys Gln Ala Cys
225 230 235 240

Arg Leu Arg Lys Cys Tyr Glu Val Gly Met Met Lys Gly Gly Ile Arg
245 250 255

Lys Asp Arg Arg Gly Gly Arg Met Leu Lys His Lys Arg Gln Arg Asp
260 265 270

Asp Leu Glu Gly Arg Asn Asp Met Gly Pro Ser Gly Asp Met Arg Ala
275 280 285

Thr Asn Leu Trp Pro Ser Pro Leu Val Ile Lys His Thr Lys Lys Asn
290 295 300

Ser Pro Ala Leu Ser Leu Thr Ala Asp Gln Met Val Ser Ala Leu Leu
305 310 315 320

Asp Ala Glu Pro Pro Leu Ile Tyr Ser Glu Tyr Asp Pro Ser Arg Pro
325 330 335

Phe Ser Glu Ala Ser Met Met Gly Leu Leu Thr Asn Leu Ala Asp Arg
340 345 350

Glu Leu Val His Met Ile Asn Trp Ala Lys Arg Val Pro Gly Phe Gly
355 360 365

Asp Leu Asn Leu His Asp Gln Val His Leu Leu Glu Cys Ala Trp Leu
370 375 380

Glu Ile Leu Met Ile Gly Leu Ile Trp Arg Ser Met Glu His Pro Gly
385 390 395 400

Lys Leu Leu Phe Ala Pro Asn Leu Leu Leu Asp Arg Asn Gln Gly Lys
405 410 415

Cys Val Glu Gly Met Val Glu Ile Phe Asp Met Leu Leu Ala Thr Ser
420 425 430

Ala Arg Phe Arg Met Met Asp Leu Gln Gly Glu Phe Val Cys Leu
435 440 445

Lys Ser Ile Ile Leu Leu Asn Ser Gly Val Tyr Thr Phe Leu Ser Ser
450 455 460

Thr Leu Lys Ser Leu Glu Glu Lys Asp His Ile His Arg Val Leu Asp
465 470 475 480

Lys Ile Thr Asp Thr Leu Ile His Leu Met Ala Lys Ala Gly Leu Thr
485 490 495

Leu Gln Gln Gln His Arg Arg Leu Ala Gln Leu Leu Leu Ile Leu Ser
500 505 510

His Ile Arg His Met Ser Asn Lys Gly Met Glu His Leu Tyr Asn Met
515 520 525

Lys Cys Lys Asn Val Val Pro Phe Tyr Asp Leu Leu Leu Glu Met Leu
530 535 540

Asp Ala His Arg Leu His Thr Pro Val Ser Arg Met Gly Val Ser Pro

545 550 555 560

Glu Glu Pro Ser Gln Ser Gln Leu Thr Thr Thr Asn Ser Thr Ser Ser
565 570 575

His Ser Leu Gln Thr Tyr Tyr Ile Pro Ser Glu Ala Glu Ser Phe Pro
580 585 590

Asn Thr Ile
595

<210> 31
<211> 595
<212> PRT
<213> pig

<400> 31

Met Thr Met Thr Leu His Thr Lys Ala Ser Gly Met Ala Leu Leu His
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Gln Ile Gln Ala Asn Glu Leu Glu Pro Leu Asn Arg Pro Gln Leu Lys
20 25 30

Ile Pro Leu Glu Arg Pro Leu Gly Glu Val Tyr Val Asp Ser Ser Lys
35 40 45

Pro Ala Val Tyr Asn Tyr Pro Glu Gly Ala Ala Tyr Asp Phe Asn Ala
50 55 60

Ala Ala Ala Ala Ser Ala Pro Val Tyr Gly Gln Ser Gly Leu Ala Tyr
65 70 75 80

Gly Pro Gly Ser Glu Ala Ala Ala Phe Gly Ala Asn Gly Leu Gly Gly
85 90 95

Phe Gln Pro Leu Asn Ser Val Ser Pro Ser Pro Leu Val Leu Leu His
100 105 110

Pro Pro Pro Gln Leu Ser Pro Phe Leu His Pro His Gly Gln Gln Val
115 120 125

Pro Tyr Tyr Leu Glu Asn Glu Pro Ser Gly Tyr Ala Val Arg Glu Ala
130 135 140

Gly Pro Pro Ala Phe Tyr Arg Pro Asn Ser Asp Asn Arg Arg Gln Gly
145 150 155 160

Gly Arg Glu Arg Leu Ala Ser Thr Ser Asp Lys Gly Ser Met Ala Met
165 170 175

Glu Ser Ala Lys Glu Thr Arg Tyr Cys Ala Val Cys Asn Asp Tyr Ala
180 185 190

Ser Gly Tyr His Tyr Gly Val Trp Ser Cys Glu Gly Cys Lys Ala Phe
195 200 205

Phe Lys Arg Ser Ile Gln Gly His Asn Asp Tyr Met Cys Pro Ala Thr
210 215 220

Asn Gln Cys Thr Ile Asp Lys Asn Arg Arg Lys Ser Cys Gln Ala Cys
225 230 235 240

Arg Leu Arg Lys Cys Tyr Glu Val Gly Met Met Lys Gly Gly Ile Arg
245 250 255

Lys Asp Arg Arg Gly Gly Arg Met Leu Lys His Lys Arg Gln Arg Asp
260 265 270

Asp Gly Glu Gly Arg Asn Glu Ala Val Pro Pro Gly Asp Met Arg Ser
275 280 285

Ala Asn Leu Trp Pro Ser Pro Leu Leu Ile Lys His Thr Lys Lys Asn
290 295 300

Ser Pro Val Leu Ser Leu Thr Ala Asp Gln Met Ile Ser Ala Leu Leu
305 310 315 320

Glu Ala Glu Pro Pro Ile Ile Tyr Ser Glu Tyr Asp Pro Thr Arg Pro
325 330 335

Leu Ser Glu Ala Ser Met Met Gly Leu Leu Thr Asn Leu Ala Asp Arg
340 345 350

Glu Leu Val His Met Ile Asn Trp Ala Lys Arg Val Pro Gly Phe Leu
355 360 365

Asp Leu Ser Leu His Asp Gln Val His Leu Leu Glu Cys Ala Trp Leu
370 375 380

Glu Ile Leu Met Ile Gly Leu Val Trp Arg Ser Met Glu His Pro Gly
385 390 395 400

Lys Leu Leu Phe Ala Pro Asn Leu Leu Leu Asp Arg Asn Gln Gly Lys
405 410 415

Cys Val Glu Gly Met Val Glu Ile Phe Asp Met Leu Leu Ala Thr Ser
420 425 430

Ser Arg Phe Arg Met Met Asn Leu Gln Gly Glu Glu Phe Val Cys Leu
435 440 445

Lys Ser Ile Ile Leu Leu Asn Ser Gly Val Tyr Thr Phe Leu Ser Ser
450 455 460

Thr Leu Lys Ser Leu Glu Glu Lys Asp His Ile His Arg Val Leu Asp
465 470 475 480

Lys Ile Thr Asp Thr Leu Ile His Leu Met Ala Lys Ala Gly Leu Thr
485 490 495

Leu Gln Gln Gln His Arg Arg Leu Ala Gln Leu Leu Leu Ile Leu Ser
500 505 510

His Phe Arg His Met Ser Asn Lys Gly Met Glu His Leu Tyr Asn Met
515 520 525

Lys Cys Lys Asn Val Val Pro Leu Tyr Asp Leu Leu Leu Glu Met Leu
530 535 540

Asp Ala His Arg Leu His Ala Pro Thr Asn Leu Gly Gly Pro Pro Pro
545 550 555 560

Glu Asp Met Ser Gln Ser Gln Leu Ala Thr Ser Gly Ser Thr Pro Ser
565 570 575

His Ser Leu Gln Met Tyr Tyr Ile Thr Gly Glu Ala Glu Asn Phe Pro
580 585 590

Thr Thr Ile
595

<210> 32
<211> 171
<212> PRT
<213> Human

<400> 32

Met Leu Leu Ser Ser Gln Val Asn Glu Glu His Ser Pro Val Ser Arg
1 5 10 15

Met Arg Thr Glu Phe Leu Met Gln Leu Asp Thr Val Leu Thr Ser Ala
20 25 30

Glu Asp Gln Ile Val Val Ile Cys Ala Thr Ser Lys Pro Glu Glu Ile
35 40 45

Asp Glu Ser Leu Arg Arg Tyr Phe Met Lys Arg Leu Leu Ile Pro Leu
50 55 60

Pro Asp Ser Thr Ala Arg His Gln Ile Ile Val Gln Leu Leu Ser Gln
65 70 75 80

His Asn Tyr Cys Leu Asn Asp Lys Glu Phe Ala Leu Leu Val Gln Arg
85 90 95

Thr Glu Gly Phe Ser Gly Leu Asp Val Ala His Leu Cys Gln Glu Ala
100 105 110

Val Val Gly Pro Leu His Ala Met Pro Ala Thr Asp Leu Ser Ala Ile
115 120 125

Met Pro Ser Gln Leu Arg Pro Val Thr Tyr Gln Asp Phe Glu Asn Ala
130 135 140

Phe Cys Lys Ile Gln Pro Ser Ile Ser Gln Lys Glu Leu Asp Met Tyr
145 150 155 160

Val Glu Trp Asn Lys Met Phe Gly Cys Ser Gln
165 170

<210> 33
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Estrogen Response Element

<400> 33
gctctaaagaa gaacagcctg 20

<210> 34
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 34	
gctcttaagag gaacagcctg	20
<210> 35	
<211> 30	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Primer	
<400> 35	
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<213> Artificial Sequence	
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<223> Estrogen Response Element	
<400> 36	
aggta	6
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tgacct	6
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<211> 13	
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<220>	
<221> misc_feature	
<222> (1)..(13)	
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<400> 38	
ggtcannntg acc	13
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<212> DNA
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<220>
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<400> 39
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13

<210> 40
<211> 5
<212> DNA
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<220>
<223> Estrogen Response Element

<400> 40
ggtca

5

<210> 41
<211> 5
<212> DNA
<213> Artificial Sequence

<220>
<223> Estrogen Response Element

<400> 41
tggtc

5

<210> 42
<211> 5
<212> DNA
<213> Artificial Sequence

<220>
<223> Estrogen Response Element

<400> 42
tgacc

5

<210> 43
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Estrogen Response Element

<400> 43

attcgatcag ggccggggcga gc

22

<210> 44
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Estrogen Response Element

<220>
<221> misc_feature
<222> (1)..(27)
<223> n equals unknown

<400> 44
ggccannnnn nnnnnnnnnn nggcggg

27

<210> 45
<211> 31
<212> DNA
<213> Artificial Sequence

<220>
<223> Estrogen Response Element

<220>
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<222> (1)..(31)
<223> n equals unknown

<400> 45
ggtcannnnn nnnnnnnnnn nnnnnngcgg g

31

<210> 46
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Estrogen Response Element

<220>
<221> misc_feature
<222> (1)..(23)
<223> n equals unknown

<400> 46
gggccgggn nnnnnnnngg tca

23

<210> 47
<211> 5
<212> DNA
<213> Artificial Sequence

<220>
<223> Estrogen Response Element

<400> 47
gggca 5

<210> 48
<211> 5
<212> DNA
<213> Artificial Sequence

<220>
<223> Estrogen Response Element

<400> 48
ggtaa 5

<210> 49
<211> 13
<212> DNA
<213> Artificial Sequence

<220>
<223> Estrogen Response Element

<220>
<221> misc_feature
<222> (1)..(13)
<223> n equals unknown

<400> 49
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